Iowa Department of Natural Resources

Leading Iowans in caring for our natural resources

Welcome to the 2017 DNR Air Quality Bureau Title V Workshop

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Title V Workshop 2017 Agenda

- Welcome/Introductions
- Program History & Important Dates
- Process Improvements
- What's New in Title V
- Monitoring Requirements
  - Periodic Monitoring
  - Compliance Assurance Monitoring (CAM)
- Questions

Iowa Air Program History
and
Important Dates

Early Air Program History

- 1970 — CAA established NAAQS, SIPs, NSPS and NESHAPs.
- Sept 23, 1970 — Construction requires a permit unless VOC only source
- June 19, 1978 — PSD effective date
- April 22, 1987 — Construction of VOC only sources requires a permit
- April 22, 1987 — Iowa takes over PSD Program from EPA Region 7
- July 31, 1987 — PM10 became a regulated pollutant

Title V Program Created

- 1990 — CAAA established the Title V program
- Nov. 15, 1993 — Iowa applies for interim approval of the Title V program
- 1995 — Iowa Title V Section was created
- 1997 — The first Title V permits were issued to electric utilities
- Sept. 12, 1997 — Iowa receives final full approval of the Title V program
- April 22, 2015 — Rescinded VOP program

Important Dates for New Sources (In Order)

- Annual Emission Inventory
  (Required from the date you become a Title V source. Due 3/31 next year)
- Annual Emissions Inventory Fees
  (Required from the date you become a Title V source. Due 7/1 next year)
- Title V Application
  (Generally due 1 year from the date you become a Title V source, or specific date for case-by-case determination)

Important Dates for Existing Sources

- Annual Emission Inventory
  (Required from the date you become a Title V source. Due 3/31 next year)
- Annual Inventory Fees
  (Required from the date you become a Title V source. Due 7/1 next year)
- Title V Application Renewals
- Title V Annual Compliance Certification (Due 3/31) & Semi-Annual Monitoring Reports (Due 9/30 and 3/31)
- Title V Permit Modifications
  (Required if construction permits modified or other changes made)

Title V Renewals

- Due date is 6 months prior to expiration date
- No extensions of submittal timeline
- Continue to operate under terms of initial permit if timely and complete renewal application filed (application shield)
- Lose application shield if the application is late

Title V Application Fee

- Effective Beginning January 15, 2016 - Title V Fees (567 IAC 30.4)
- Each initial or renewal Title V operating permit application is subject to a review fee.
- Current fee $100/hour
- Experience so far (March 2016 – June 2017)
  - 43 permits completed
  - Range from 10 – 170 hours
  - Average time to complete 46 hours

Title V Process Improvement

Innovation

- DNR is continuously looking at processes and determining how we can make them better
- Formal breakthrough events benefit from customer input

Formal Process Improvements – with Customer Input

2012 Kaizen Event

- Collaborative effort with 9 business representatives
- Increased Bureau-wide coordination
- New Part 2 application form
- CAM spreadsheet
- Boilers & process heaters, engines, NESHAPs forms
- Sixty permits issued – 76% increase over the number issued in 2011

Formal Process Improvements – with Customer Input

2014 - 2015 ABI/DNR Work Group

- Creation of EZ Mod form
- Simple form for minor modification due to a new construction permit

Formal Process Improvements - with Customer Input

2016 VSM Event & 2017 follow-up Work Groups

- Three separate events with representatives from 12 different businesses
- Improved application forms and instructions
- Procedures for using previous versions of forms
- Optional pre-application meetings
- Internal processes streamlined
  - reduce information requests to business
  - customer satisfaction surveys
  - receive needed information earlier
  - data sharing between sections

Part 1 Forms

Part 1 - Emission Information

- Form 1.0 Facility Identification & Application Certification
- Form 1.2 Schematic - Process Flow Diagram
- Form 1.3 Insignificant Activities - Potential Emissions
- Form 1.4 Potential Toxic Emissions - Significant Activities
- Form 1.5 Potential Emissions - Significant Activities
- FormCA-01 Calculation Documentation

Part 1 Forms cont.

Part 1 - Emission Information

- Form 2.0 Emission Point information
- Form 3.0 Emission unit description - potential emissions
- Form 4.0 Emission Unit - Actual Operations and Emissions
- Form CE-01 Pollution Control Equipment Data Sheet
- Form ME-01 Continuous Monitoring Systems
- Form 5.0 Title V Annual Emissions Summary/Fee

Part 2 Forms

- Part 2 - Requirements & Compliance
  - Part 2 - General Facility Requirements Form
    - Part 61 National Emission Standards for Hazardous Air Pollutants (NESHAP) Information Form
    - Boiler and Process Heater Information Form
    - Engine Information Form
  - Part 2 - Emission Point Information Form
    - Compliance Assurance Monitoring (CAM) Calculation Form (Spreadsheet)
  - Part 2 reference tables now in instructions

What's New in Title V

Overall Form Changes

Changes made to standardize all forms for consistency:

- Streamlined forms (dated 8/2017) as a result of stakeholder workgroup
- All forms ADA (American Disability Act) compliant
- Formatting updated for consistency

Part 1 Form Changes

Form 1.0: Facility Identification & Application Certification

- Form 1.0 and Part 3 combined
- Optional "Pre-Application Meeting/Assistance" checkbox
- "Application Includes" section removed
- Checkboxes for titles "Mr. Ms. and Dr."
- Added to Form 1.0 from old Part 3
  - Application Contents
  - Statement of Certification of Compliance signature block
  - Certification of Truth, Accuracy, and Completeness signature block
- Fee Signature replaced by footnote

Part 1 Form Changes

Form 1.0 Cont.

- Designation of Responsible Official - IAC reference updated
- The Application and Compliance Certification instruction removed

Form 1.2 Schematic-Process Flow Diagram

- Clarifies that facilities can attach their own diagrams (Box 3)

Form 1.3 Insignificant Activities-Potential Emissions

- Form 1.3 available in spreadsheet form.
- PM-2.5 has been added to the form (Box 10)
- Other pollutants (Box 15) and footnote 2 added Other pollutants
- "Facility Totals- (Tons/Year) on Page 1 Only" (Box 17) updated and footnote removed

Part 1 Form Changes

Form 1.4 Potential Toxic Emissions- Significant Activities

- Form 1.4 available in spreadsheet form
- Term "chemical" replaced with "pollutant"

Form 1.5 Potential Emissions- Significant Activities

- Acid Rain Contact Information removed since outdated

Form CA-01 Calculations

- CA-01 or substitute to document calculation (Item 7)
- Items 1 through 6 completed on CA-01 or the substitute

Part 1 Form Changes

Form 2.0 Emission Point Information

- "Bypass Stacks Associated with the Emission Point" (Box 12)
- SCC numbers removed since SCC numbers in Form 3.0 (Box 13)

Form 3.0 Emission Unit Description-Potential Emissions

- "Proposed Limit" check box removed, facility required to attach a statement with proposed limit.
- Statement requesting forms CE-01 and ME-01 updated
- Word "emitted" removed from the last statement
- Additional emission factor sources added to footnote

Part 1 Form Changes

Form 4.0 Unit Process-Actual Operations & Emissions

- Link for SCC number updated (Page 1, Box 7)
- Multiple CEs or MEs can be entered on single line (Box 21, 22).
- Facility ID and SCC number deleted (Page 2)
- Table title now "ACTUAL EMISSIONS-HAP and Additional Regulated Air Pollutants" (Page 2)

Form CE-01: Pollution Control Equipment Data Sheet

- Typographical errors corrected

Part 1 Form Changes

Form ME-01 Continuous Monitoring Systems

- Greatly simplified detailed technical information for CEMs systems.
- Pollutant(s)/Parameter(s) Monitored by CMS updated
  - TRS and H2S removed
  - PM, Hg and flow added

Part 1 Form Changes

Form ME-01 Continuous Monitoring Systems Cont.

- Removed
  - Type Monitor Operations - in-situ or extractive
  - Measurement Basis - wet or dry
  - Monitor Operations - span value
  - Data Reduction Procedures for Opacity Monitors
  - Data Reduction procedures for Gas Monitors
- Data Acquisition System (DAS) information simplified (Box 11)

Part 1 Form Changes

Form 5.0: Title V Annual Emissions Summary/Emissions Fee

- Gray box in upper right hand side updated "DNR USE ONLY"
- Paragraphs (a) Annual Emissions Summary and (b) Annual Emissions Fee Payment updated
- Pollutant names shortened for consistency

Part 2 Form Changes

General Facility Requirements

- Question 1.d. NO checkbox further defined
- Questions 1.e. and 6.a.i. allows space to type information
- Link to IAC updated (statement at end of page 4)

Part 61 NESHAP

- Reference in Part 2 corrected to 1.g.
- Iowa Department of Employment Services updated to Workforce Development (1.a.)

Part 2 Form Changes

Boiler and Process Heater Information

- Added facility name and EIQ number at top of form.
- Updated footnote 1 – subcategories based on current subpart DDDDD

Engine Information

- Facility name and EIQ number now requested at the top of form
- Fire pump added as an option (future option)
- Certified engines - EPA's Certificate of Conformity requirement added (footnote 6)
- Three additional engine information blocks added on page 2

Part 2 Form Changes

Emission Point Information

- No major changes

CAM Calculation

- No changes (spreadsheet)

Part 3 Form & Instruction Changes

Application Certification

- Combined with form 1.0 (no longer available)

Instructions

- Instructions updated to reflect the changes in the forms

Accepting Older Versions of Forms

- Goal of simplifying the forms and reducing duplicate data entry
- For eight application forms DNR will accept previous versions

  Part 1 Forms

  – Form 1.2, Form 1.4, Form 1.5, Form 2.0, Form 3.0, Form CA-01, Form CE-01

  Part 2 Forms

  – Engine information form
- Even photocopies of previous application forms are acceptable in cases when there have been no changes to the equipment.
- Detailed information on website

Optional Pre Application Meeting & Assistance

- Hands-on help with the application, results in faster application review time and a permit that better suits the need of business
- Pre application meeting and assistance
  - Discuss the Title V permitting process
  - Answer questions on forms
  - Tour facility to better understand the manufacturing processes
  - Discuss changes at the facility since the last permit
  - Discuss permit formatting
- FAQ being sent out with reminder letters

Additional Forms & Assistance

- Modification quick reference sheet
- EZ Mod application form
- EIQ submittal checkbox
- Title V permit application completeness review checklist

Monitoring Requirements

- Periodic Monitoring
- Compliance Assurance Monitoring (CAM)

Periodic Monitoring

Purpose

- To ensure the compliance with all applicable requirements

- To certify the compliance status of air pollution emission sources

  Responsible Official can certify that the emission point in question was in continuous compliance during the applicable time period.

Periodic Monitoring

Periodic Monitoring Guidance (PMG)

- PMG is incorporated into Title V rule 567 IAC 22.108(3)”b”
- Level of monitoring requirements:
  - Recordkeeping
  - Stack testing
  - Operation and maintenance plans for controlled units
    - Facility maintained or
    - Agency approved (which will be replaced by a CAM plan)
  - Determined based on emission potentials (pre-control and/or after control) and other factors.

Controlled Sources (PM example)

	Minor < 25		Significant ≥ 25		Major ≥ 100	
Uncontrolled* Minor < 25 tons	No O&M	No tests				
Uncontrolled* Significant ≥ 25 tons	Facility O&M	No tests	Facility O&M	+One test		
Uncontrolled* Major ≥ 100 tons	Facility O&M	+One test	+Agency O&M	+One test	Agency O&M	+Two tests

Particulate Matter (PM) 4000 tons/yr uncontrolled and 40 tons/yr controlled

Control Equipment: Baghouse

Factors Used In Evaluating A Reduction In Testing

The Department may consider the following factors in evaluating a reduction in testing.

- Demonstrated compliance in the past year.
- Demonstrated compliance by a significant margin.
- Identical or similar sources meet the criteria of 1 or 2.
- "No visible emission" action level on a well-controlled source.
- A controlled source with a permit condition to pre-clean or oil material being handled, lenient standard (0.1 grain/dscf).
- Testing would create a safety hazard.

Factors Used In Evaluating A Reduction In Testing cont.

- Enforceable restrictions on hours of operation to less than 876 hours per year.
- Case-by-case basis:
- Industry specific emission factors and control efficiencies,
- Stack tests that are more than one year old,
- Stack tests on similar sources at other facilities, and
- No EPA Reference Method for stack testing.

Compliance Assurance Monitoring (CAM)

CAM applied to a unit:

- that used control equipment
- to comply with an applicable requirement
- if the uncontrolled PTE of the emissions unit exceeded the major source threshold
  - (If the uncontrolled PTE was less than the major source threshold, *Periodic Monitoring* was required)
- 40 CFR Part 64

Compliance Assurance Monitoring (CAM)

In general, an emission unit is subject to the CAM if all of the following are satisfied:

- is at a major source required to obtain a Title V Permit;
- is subject to an emission limitation or standard for a regulated pollutant;
- uses a control device to achieve compliance with the emission limitation or standard for the particular pollutant;
- has potential pre-control emissions over 100% of the level considered to be a major source, same as under the Title V Program;
- unless otherwise exempted.

Compliance Assurance Monitoring (CAM)

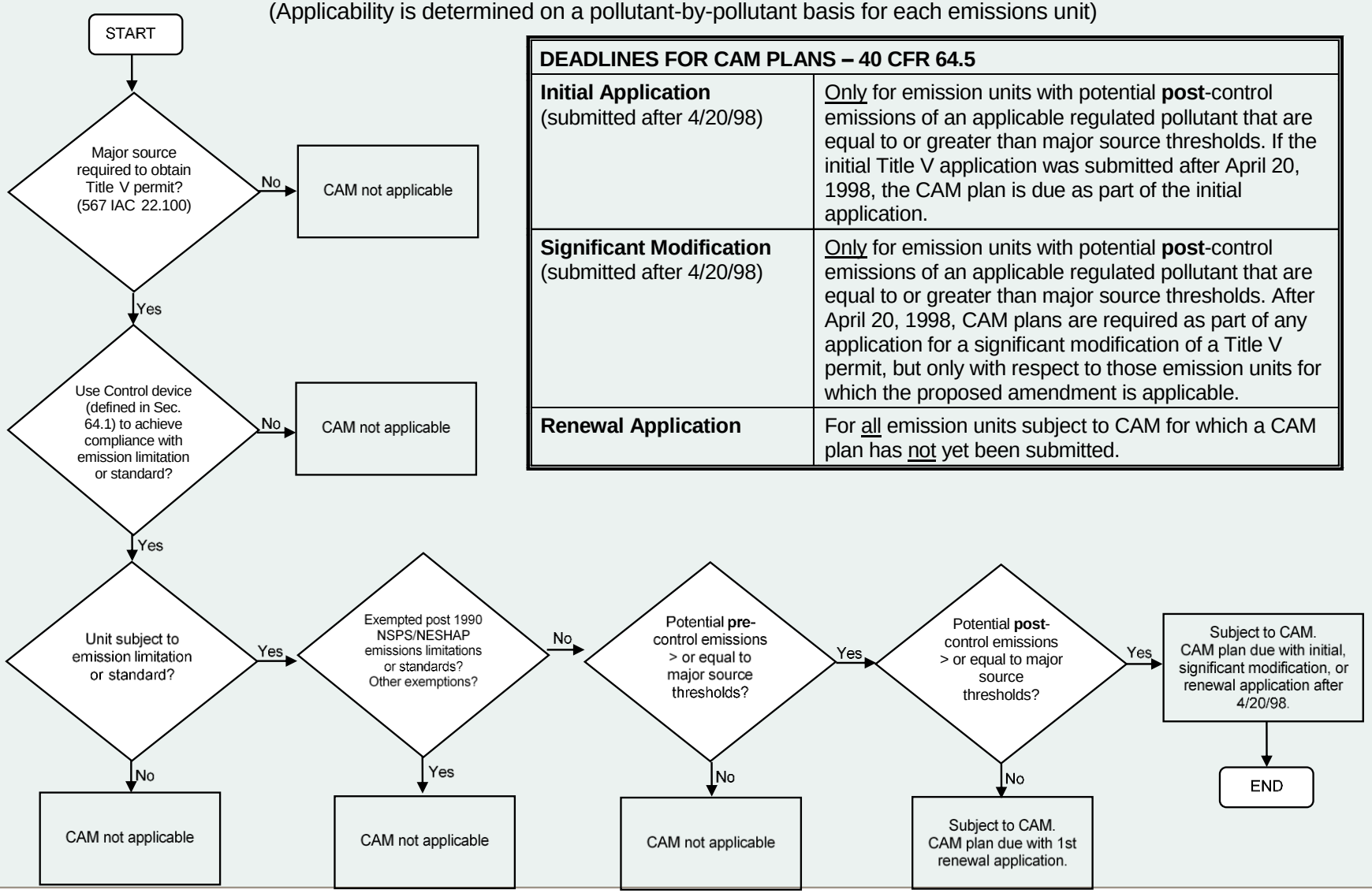
Exempted Emission Limitations or Standards

- Post 11-15-90 (proposed date) NSPS or NESHAP, if these standards limit the specific pollutant that is being controlled by the control device being evaluated for CAM
- Stratospheric ozone protection requirements (Title VI of CAA);
- Acid Rain Program requirements (40 CFR Parts 72-75);
- Requirements under an approved emission trading program;
- Emissions cap that meet the requirements of 40 CFR Part 70.4(b)(12);
- Emission limitations or standards which require a continuous compliance determination method that does not use an assumed control factor (may be a regulation that requires a CEMS).

CAM Applicability Flowchart

CAM Applicability Flowchart

(Applicability is determined on a pollutant-by-pollutant basis for each emissions unit)



DEADLINES FOR CAM PLANS – 40 CFR 64.5	
Initial Application (submitted after 4/20/98)	Only for emission units with potential **post**-control emissions of an applicable regulated pollutant that are equal to or greater than major source thresholds. If the initial Title V application was submitted after April 20, 1998, the CAM plan is due as part of the initial application.
Significant Modification (submitted after 4/20/98)	Only for emission units with potential **post**-control emissions of an applicable regulated pollutant that are equal to or greater than major source thresholds. After April 20, 1998, CAM plans are required as part of any application for a significant modification of a Title V permit, but only with respect to those emission units for which the proposed amendment is applicable.
Renewal Application	For all emission units subject to CAM for which a CAM plan has not yet been submitted.

Compliance Assurance Monitoring (CAM) Calculation Form (Spreadsheet)

See Excel File

Compliance Assurance Monitoring (CAM)

Outline of a CAM Plan is:

1. Describe indicators to be monitored
2. Describe ranges or process to set indicator ranges
3. Describe performance criteria for monitoring, including:
   A. specifications for obtaining representative data;
   B. verification procedures to confirm the monitoring operational status;
   C. quality assurance and control procedures
   D. monitoring frequency
      I. 4 times per hour (minimum) if post-control emissions are $\geq$ MST (major source threshold); or
      II. 1 time per day (minimum) if post-control emissions are < MST.
4. Describe indicator ranges and performance criteria for a CEMS, COMS, or PEMS
5. Provide a justification for the use of parameters, ranges, and monitoring approach
6. Provide emissions test data; and, if necessary
7. Provide an implementation plan for installing, testing, and operating the monitoring

COMPLIANCE ASSURANCE MONITORING PLAN:
Fiberglass Dry Filters (CE 11) for PM/PM_{10} Control (EU 11)

I. Background

A. Emissions Unit
Description: Grind Booth
Identification: EU 11
Facility: Need for Speed Bonnets and Bikes

B. Applicable Regulation, Emission Limit, and Monitoring Requirements
Regulation No.: 567 IAC 23.3(2)"a";
Iowa DNR Construction Permit 99-A-xxxx
Emission limits: 0.1 gr/dscf PM and 2.09 lb/hr PM_{10}
Monitoring requirements: Dust Collector Differential Static Pressure and Visible Emissions, daily and weekly monitoring

C. Control Technology
Fiberglass paint collectors.

II. Monitoring Approach

The key elements of the monitoring approach are presented in the following table. The selected performance indicators are the differential static pressure across paint collectors and visible emissions observation.

	Indicator #1	**Indicator #2**
I. Indicator	Paint Collector Differential Static Pressure.	Visible Emissions.
Measurement Approach	Differential static pressure measured across the paint collector by a magnetic pressure gauge.	Visible emissions from the paint collector exhaust will be monitored while EU 11 is operating. Visible emission observations will be performed on the paint collector unit and associated components for evidence of fugitive emissions, holes, corrosion, leaks and failures.
II. Indicator Range	An excursion is defined as a differential static pressure reading across the paint collector, outside the manufacturer's specified operating range of 0.5 – 4 inches of water. Excursions trigger an inspection, corrective action and a reporting requirement.	An excursion is defined as any visible emission occurring. Excursions trigger an inspection, corrective action and a reporting requirement.

III. Performance Criteria A. Data Representativeness	The differential static pressure is measured across the paint collector.	Visible emission measurements are made at the emission point and on the paint collector unit and associated components.
B. Verification of Operational Status	Magnetic pressure gauge factory calibrated.	Not Applicable.
C. QA/QC Practices and Criteria	Magnetic pressure gauge will be calibrated, maintained, and operated according to the manufacturer's specifications.	The observer shall be familiar with general procedures for visible emissions observation.
D. Monitoring Frequency	Various visual checks will occur during operation of unit (minimum once per day).	Visible emission observations will be performed weekly on the paint collector and associated components.
Data Collection Procedures	Results of paint collector differential static pressure checks will be recorded in the baghouse maintenance log and archived for at least 5 years.	Results of visible emission observations will be recorded in the dust collector maintenance log and archived for at least 5 years.
Averaging Period	Not Applicable.	Not Applicable.

Compliance Assurance Monitoring

Sample CAM plans (EPA website, approved TV permits)

- Precipitator – opacity, power, malfunction alarms, TR sets operation status
- Baghouse – opacity, pressure drop, bag leak detection
- Oxidizer – combustion chamber temperature
- Capture System – flow indicator, pressure differential
- Multiclone – opacity, physical inspection
- Panel Filters – opacity, pressure drop
- Vapor Combustion Unit – presence of flame
- Water Curtain – opacity, water level

Questions?